

Appln. No. 09/E01,602  
Amdt. dated February 10, 2005  
Reply to Office Action dated December 1, 2004

IN THE CLAIMS:

Please cancel claims 10 and 15 and amend claims 1-4, 9 and 11-14 as follows. The following listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Currently Amended). A method for simultaneously developing a family of complex systems having a common software architecture platform, the family of complex systems including a plurality of complex systems, the method comprising:

5        constructing an initial requirements object model which  
explains abstract concepts in terms of a structured vocabulary,  
forming an initial set of use cases based on the initial  
requirements object model, the use cases describing interaction  
of users with each of said complex systems in terms of abstract  
10 concepts;

forming [[a]] an initial functional requirements specification (FRS) which includes use cases ~~that describe interaction of users with said complex systems in terms of abstract concepts,~~

15        forming [[a]] an amended requirements object model ~~which explains the abstract concepts in terms of a structured~~

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~~vocabulary based on the initial FRS and thus in consideration of  
the initial set of use cases, developing the~~

20 ~~forming additional use cases based on analysis of the  
amended requirements object model,  
changing the FRS in light of the additional uses cases,  
forming another amended requirements object model based on  
the changed FRS simultaneously with the formation of the  
requirements object model additional use cases,~~

25 ~~repeating the additional use case formation step, the FRS  
changing step and the amended requirements object model formation  
step until all desired use cases have been formed and considered,  
and~~

~~amending the obtaining a final requirements object model  
30 while the use cases are being developed, the requirements object  
model being completed once all of the desired use cases have been  
developed considered.~~

Claim 2 (Currently Amended). A method as claimed in Claim  
1, wherein the functional requirements specification (FRS)  
includes one or more chapters, further comprising:

5 establishing one or more FRS authoring teams for separate  
chapters,

designating a single object model control team to control  
internal consistency of the requirement object ~~model~~ models,

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forming one or more overlapping modeling teams where each  
10 modeling team includes members of the object model control team  
together with one or more members of respective FRS authoring  
teams, and

providing that overlapping modeling teams for their chapters  
construct use cases and provide respective portions of the  
15 structured vocabulary.

Claim 3 (Currently Amended). A method as claimed in Claim  
1, wherein differences between members of the family are  
expressed in the requirements object ~~model~~ models.

Claim 4 (Currently Amended). A method as claimed in Claim  
2, further comprising:

constructing ~~an~~ the initial requirements object model in at  
least one of the modeling teams,

5 performing the FRS authoring of the use cases on the basis  
of the initial model, and

performing fine tuning of the use cases by the object model  
control team.

Claim 5 (Previously Presented). A method as claimed in  
Claim 2, further comprising carrying out FRS authoring of the use  
cases of several chapters in parallel by the respective FRS

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authoring teams.

Claim 6 (Original). A method as claimed in Claim 1, wherein the complex systems are medical diagnostic imaging systems, notably, diagnostic x-ray examination systems.

Claim 7 (Previously Presented). A family of complex systems, notably a family of medical imaging systems, obtained by the method of claim 1, wherein separate complex systems support respective, different subsets of the use cases.

Claim 8 (Previously Presented). A method as claimed in Claim 1, where the precise behavior of one or more use cases differs among members of the family according to variations expressed in the object model, notably by different subclasses of  
5 a general class, by different multiplicities of relationships, or by different values of attributes.

Claim 9 (Currently Amended). A method as claimed in Claim 1, further comprising the step of expressing differences between members of the family in the requirements object model models using at least one of the following mechanisms:

5 different members of the family are expressed using different subclasses of a generalized class,

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different members of the family are expressed using  
different multiplicities in relationships between classes, and  
different members of the family are expressed using  
10 different values for an attribute of a class.

Claim 10 (Cancelled)

Claim 11 (Currently Amended). A method as claimed in Claim  
5 1, further comprising analyzing the requirements object ~~model~~  
models to identify difficulties and shortcomings, the  
requirements object ~~model~~ models being amended in light of the  
identified difficulties and shortcomings.

Claim 12 (Currently Amended). A method as claimed in Claim  
1, further comprising expressing the use cases in the terminology  
of the requirement object ~~model~~ models.

Claim 13 (Currently Amended). A method as claimed in Claim  
1, further comprising considering the functional requirements  
specification complete when all of the use cases are expressed in  
the terminology defined by the requirements object ~~model~~ models.

Claim 14 (Currently Amended). A method as claimed in Claim  
1, wherein since the additional use cases are ~~developed~~ formed

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simultaneous with the formation of the amended requirements  
object ~~model~~ models, the amended requirements object ~~model is~~  
5 models are thereby formed during the formation of the functional  
requirements specification.

Claim 15 (Cancelled).